Acer LCD Monitor

User Guide

Copyright © 2009 . Acer Incorporated.
All Rights Reserved.

Acer LCD Monitor User Guide
Original Issue: 03/2009

Changes may be made periodically to the information in this publication without obligation to notify any person of such revisions or changes. Such changes will be incorporated in new editions of this manual or supplementary documents and publications. This company makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims the implied warranties of merchantability or fitness for a particular purpose.

Record the model number, serial number, purchase date and place of purchase information in the space provided below. The serial number and model number are recorded on the label affixed to your computer. All correspondence concerning your unit should include the serial number, model number and purchase information.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronically, mechanically, by photocopy, recording or otherwise, without the prior written permission of Acer Incorporated.

Acer LCD Monitor User Guide

Model number: _____

Serial number: _____

Date of purchase: _____

Place of purchase: _____

Acer and the Acer logo are registered trademarks of Acer Incorporated. Other companies' product names or trademarks are used herein for identification purposes only and belong to their respective companies.

Information for your safety and comfort

Safety instructions

Read these instructions carefully. Keep this document for future reference. Follow all warnings and instructions marked on the product.

Special notes on LCD monitors

The following are normal with the LCD monitor and do not indicate a problem.

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the power switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has 99.99% or more effective pixels. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the power switch for a few hours.

Cleaning your monitor

Please carefully follow these guidelines when cleaning the monitor:

- Always unplug the monitor before cleaning.
- Use a soft cloth to wipe the screen and cabinet front and sides.

Accessibility

Be sure that the power outlet you plug the power cord into is easily accessible and located as close to the equipment operator as possible. When you need to disconnect power from the equipment, be sure to unplug the power cord from the electrical outlet.

Safe listening

To protect your hearing, follow these instructions.

- Gradually increase the volume until you can hear it clearly and comfortably and without distortion.
- After setting the volume level, do not increase it after your ears have adjusted.
- Limit the amount of time listening to music at high volume.
- Avoid turning up the volume to block out noisy surroundings.
- Turn the volume down if you can't hear people speaking near you.

Warnings

- Do not use this product near water.
- Do not place this product on an unstable cart, stand or table. If the product falls, it could be seriously damaged.
- Slots and openings are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind onto or into the product.
- To avoid damage of internal components and to prevent battery leakage, do not place the product on a vibrating surface.
- Never use it under sporting, exercising, or any vibrating environment which will probably cause unexpected short current or damage internal devices.

Using electrical power

- This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- If an extension cord is used with this product, make sure that the total

ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.

- Do not overload a power outlet, strip or receptacle by plugging in too many devices. The overall system load must not exceed 80% of the branch circuit rating. If power strips are used, the load should not exceed 80% of the power strip's input rating.
- This product's power cord is equipped with a three-wire grounded plug. The plug only fits in a grounded power outlet. Make sure the power outlet is properly grounded before inserting the power cord plug. Do not insert the plug into a non-grounded power outlet. Contact your electrician for details.

Warning! The grounding pin is a safety feature. Using a power outlet that is not properly grounded may result in electric shock and/or injury.

Note: The grounding pin also provides good protection from unexpected noise produced by other nearby electrical devices that may interfere with the performance of this product.

- Use the product only with the supplied power supply cord set. If you need to replace the power cord set, make sure that the new power cord meets the following requirements: detachable type, UL listed/CSA certified, type SPT-2, rated 7 A 125 V minimum, VDE approved or its equivalent, 4.6 meters (15 feet) maximum length.

Product servicing

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel when:

- the power cord or plug is damaged, cut or frayed
- liquid was spilled into the product
- the product was exposed to rain or water
- the product has been dropped or the case has been damaged
- the product exhibits a distinct change in performance, indicating a need for service
- the product does not operate normally after following the operating instructions

Note: Adjust only those controls that are covered by the operating instructions, since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

Potentially explosive environments

Switch off your device in any area with a potentially explosive atmosphere and obey all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Switch off the device near gas pumps at service stations. Observe restrictions on the use of radio equipment in fuel depots, storage and distribution areas; chemical plants; or where blasting operations are in progress. Areas with a potentially explosive atmosphere are often, but not always, marked. They include below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), and areas where the air contains chemicals or particles such as grain, dust or metal powders.

Additional safety information

Your device and its enhancements may contain small parts. Keep them out of the reach of small children.

IT Equipment Recycling Information

Acer is strongly committed to environmental protection and views recycling, in the form of salvaging and disposal of used equipment, as one of the company's top priorities in minimizing the burden placed on the environment.

We at Acer are very conscious of the environmental effects of our business and strive to identify and provide the best working procedures to reduce the environmental impact of our products.

For more information and help when recycling, please go to this website:
http://www.acer-group.com/public/Sustainability/sustainability01.htm

Visit www.acer-group.com for further information on the features and benefits of our other products.

Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle. For more information on the Waste from Electrical and Electronics Equipment (WEEE) regulations, visit **http://global.acer.com/about/sustainability.htm**

Mercury advisory

For projectors or electronic products containing an LCD/CRT monitor or display:lamp(s) inside this product contain mercury and must be recycled or disposed of according to local, state or federal laws. For more information, contact the Electronic Industries Alliance at www.eiae.org. For lamp-specific disposal information, check www.lamprecycle.org.

LCD pixel statement

The LCD unit is produced with high-precision manufacturing techniques. Nevertheless, some pixels may occasionally misfire or appear as black or red dots. This has no effect on the recorded image and does not constitute a malfunction.

ENERGY STAR ®

Acer's ENERGY STAR qualified products save you money by reducing energy costs and helps protect the environment without sacrificing features or performance. Acer is proud to offer our customers products with the ENERGY STAR mark.

What is ENERGY STAR?

Products that are ENERGY STAR qualified use less energy and prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency. Acer is committed to offer products and services worldwide that help customers save money, conserve energy and improve the quality of our environment. The more energy we can save through energy efficiency, the more wereduce greenhouse gases and the risks of climate change. More information refers to

http://www.energystar.gov or http://www.energystar.gov/powermangement

Acer ENERGY STAR qualified products:

- Produce less heat and reduce cooling loads, and warmer climates.
- Automatically go into "display sleep" and "computer sleep" mode after 15 and 30 minute of inactivity respectively.
- Wake the monitor when it is in Active Off mode , move the mouse or press any keyboard key.
- Computers will save more than 80% energy at "sleep" mode.

ENERGY STAR and the ENERGY STAR mark are registered U.S. marks

This product has been shipped enabled for power management:

- Activate display's Sleep mode within 15 minutes of user inactivity.
- Activate computer's Sleep mode within 30 minutes of user inactivity.
- Wake the computer from Sleep mode by pushing the power button.

Tips and information for comfortable use

Computer users may complain of eyestrain and headaches after prolonged use. Users are also at risk of physical injury after long hours of working in front of a computer. Long work periods, bad posture, poor work habits, stress, inadequate working conditions, personal health and other factors greatly increase the risk of physical injury.

Incorrect computer usage may lead to carpal tunnel syndrome, tendonitis, tenosynovitis or other musculoskeletal disorders. The following symptoms may appear in the hands, wrists, arms, shoulders, neck or back:

- numbness, or a burning or tingling sensation
- aching, soreness or tenderness
- pain, swelling or throbbing
- stiffness or tightness
- coldness or weakness

If you have these symptoms, or any other recurring or persistent discomfort and/or pain related to computer use, consult a physician immediately and inform your company's health and safety department.

The following section provides tips for more comfortable computer use.

Finding your comfort zone

Find your comfort zone by adjusting the viewing angle of the monitor, using a footrest, or raising your sitting height to achieve maximum comfort. Observe the following tips:

- refrain from staying too long in one fixed posture
- avoid slouching forward and/or leaning backward
- stand up and walk around regularly to remove the strain on your leg muscles

Taking care of your vision

Long viewing hours, wearing incorrect glasses or contact lenses, glare, excessive room lighting, poorly focused screens, very small typefaces and low-contrast displays could stress your eyes. The following sections provide suggestions on how to reduce eyestrain.

Eyes

- Rest your eyes frequently.
- Give your eyes regular breaks by looking away from the monitor and focusing on a distant point.
- Blink frequently to keep your eyes from drying out.

Display

- Keep your display clean.
- Keep your head at a higher level than the top edge of the display so your eyes point downward when looking at the middle of the display.
- Adjust the display brightness and/or contrast to a comfortable level for enhanced text readability and graphics clarity.
- Eliminate glare and reflections by:
    - placing your display in such a way that the side faces the window or any light source
    - minimizing room light by using drapes, shades or blinds
    - using a task light
    - changing the display's viewing angle

- using a glare-reduction filter
- using a display visor, such as a piece of cardboard extended from the display's top front edge

- Avoid adjusting your display to an awkward viewing angle.
- Avoid looking at bright light sources, such as open windows, for extended periods of time.

Developing good work habits

Develop the following work habits to make your computer use more relaxing and productive:

- Take short breaks regularly and often.
- Perform some stretching exercises.
- Breathe fresh air as often as possible.
- Exercise regularly and maintain a healthy body.

Declaration of Conformity

CE

We,

Acer Incorporated
8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan

Contact Person: Mr. Easy Lai
Tel: 886-2-8691-3089 Fax: 886-2-8691-3120
E-mail: easy_lai@acer.com.tw
Hereby declare that:

Product: **23" LCD Monitor**
Trade Name: Acer or eMachines or Gateway or packard bell
Model Number: **H233H**
SKU Number: **H233Hxxxx (x can be 0-9, A-Z or blank)**

Is compliant with the essential requirements and other relevant provisions of the following EC directives, and that all the necessary steps have been taken and are in force to assure that production units of the same product will continue comply with the requirements.

EMC Directive 2004/108/EC as attested by conformity with the following harmonized standards:

- EN55022:2006,AS/NZS CISPR22:2006, Class B
- EN55024:1998 + A1:2001 + A2:2003
- EN61000-3-2:2006, Class D
- EN61000-3-3:1995 + A1:2001+A2:2005

Low Voltage Directive 2006/95/EC as attested by conformity with the following harmonized standard:

- EN60950-1:2001 + A11:2004

RoHS Directive 2002/95/EC on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment.

Year to begin affixing CE marking 2009.

Easy Lai
Easy Lai / Director
Acer Computer (Shanghai) Limited

Feb. 27, 2009
Date

Federal Communications Commission Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

The following local manufacturer/importer is responsible for this declaration:

Product name:	LCD Monitor
Model number:	H233H ("x" = 0 - 9, a - z, or A - Z or blank)
SKU number:	H233Hxxx ("x" = 0 - 9, a - z, or A - Z or blank)
Name of responsible party:	Acer America Corporation
Address of responsible party:	333 West San Carlos St. San Jose, CA 95110 USA
Contact person:	Acer Representative
Tel:	1-254-298-4000
Fax:	1-254-298-4147

Contents

Information for your safety and comfort iii

Safety instructions iii
Special notes on LCD monitors iii
Cleaning your monitor iii
Connecting/disconnecting the device iii
Accessibility iv
Safe listening iv
Warnings iv
Using electrical power iv
Product servicing v
Additional safety information vi
IT Equipment Recycling Information vi
Disposal instructions vi
LCD pixel statement vii
Tips and information for comfortable use vii
Declaration of Conformity ix
Federal Communications Commission Declaration of Conformity x

Unpacking 1

Attaching the base (for selected models) 2
Attaching the base (for selected models) 3
Screen position adjustment 4
Connecting the power cord 4
Power saving 4
Connecting the docking device (for selected models) 5
Display Data Channel (DDC) 5
Connector pin assignment 5
15-pin color display signal cable 5
24-pin color display signal cable 6
19-pin color display signal cable* 6

Standard timing table 7

Installation 8

Users controls 9

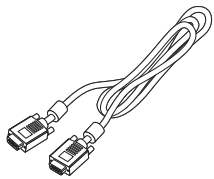
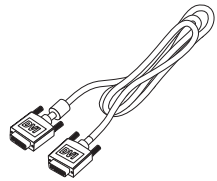
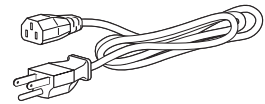
Front panel controls 9
Acer eColor Management 10
Operation instructions 10
Features and benefits 10
Adjusting the OSD settings 11
Adjusting the picture quality 11
Adjusting the OSD position 12
Adjusting the setting 13
Product information 14

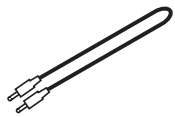
Troubleshooting 15
VGA mode 15
DVI/HDMI* mode 16

Unpacking

Please check that the following items are present when you unpack the box, and save the packing materials in case you need to ship or transport the monitor in the future.

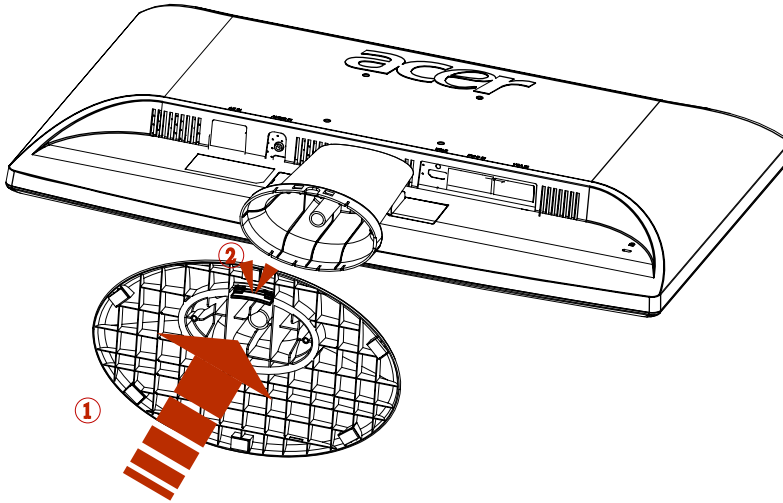
LCD monitor	User guide	Quick start guide

D-sub cable	DVI cable	AC power cord
		

Audio Cable


Attaching the base (for selected models)

Note: Remove the monitor and monitor base from its packaging. Carefully place the monitor face-down on a stable surface -- use a cloth to avoid scratching the screen.



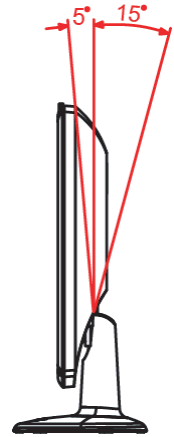
1 Attach the the monitor stand arm to the base.

2 Ensure that the base is locked onto the monitor stand arm.

Note: Take care when performing the installation to avoid injuring yourself.

Screen position adjustment

To optimize the viewing position, you can adjust the monitor tilt, using both of your hands to hold the edges of the monitor. The monitor can be adjusted to 15 degrees up or 5 degrees down.



Connecting the power cord

- Check first to make sure that the power cord you use is the correct type required for your area.
- The monitor has a universal power supply that allows operation in either 100/120 V AC or 220/240 V AC voltage area. No user-adjustment is required.
- Plug one end of the power cord to the AC inlet, and plug the other end into an AC outlet.
- For units using 120 V AC:
  Use a UL-listed cord set, type SVT wire and plug rated 10 A/125 V.
- For units using 220/240 V AC:
  Use a cord set consisting of H05VV-F cord and plug rated 10 A/250 V. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

Power saving

The monitor will be switched to "power saving" mode by the control signal from the display controller, as indicated by the amber-colored power LED.

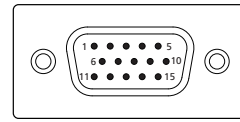
Mode	LED light
On	White
Power saving	Amber

The power saving mode will be kept until a control signal has been detected or the keyboard or mouse is activated. The recovery time from "power saving" mode back to "on" is around 3 seconds.

Display Data Channel (DDC)

To make installation easier, so long as your system supports the DDC protocol, the monitor is able to plug-and-play. The DDC is a communication protocol through which the monitor automatically informs the host system about its capabilities; for example, supported resolutions and corresponding timing. The monitor supports the DDC2B standard.

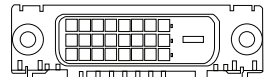
Connector pin assignment



15-pin color display signal cable

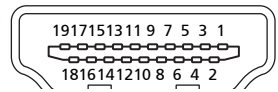
PIN No.	Description	PIN No.	Description
1	Red	9	+5 V
2	Green	10	Logic ground
3	Blue	11	Monitor ground
4	Monitor ground	12	DDC-serial data
5	DDC-return	13	H-sync
6	R-ground	14	V-sync
7	G-ground	15	DDC-serial clock
8	B-ground		

24-pin color display signal cable



PIN No.	Description	PIN No.	Description
1	TMDS data 2-	13	NC
2	TMDS data 2+	14	+5 V power
3	TMDS data 2/4 shield	15	GND (return for +5 V hsync.vsync)
4	NC	16	Hot-plug detection
5	NC	17	TMDS data 0-
6	DDC clock	18	TMDS data 0+
7	DDC data	19	TMDS data 0/5 shield
8	NC	20	NC
9	TMDS data 1-	21	NC
10	TMDS data 1+	22	TMDS clock shield
11	TMDS data 1/3 shield	23	TMDS clock+
12	NC	24	DDC TMDS clock-

19-pin color display signal cable*



PIN No.	Description	PIN No.	Description
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2–	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1–
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0–	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock–
13	CEC	14	Reserved (N.C. on device)
15	SCL	16	SDA
17	DDC/CEC Ground	18	+5V Power
19	Hot Plug Detect		

* only for certain models

Standard timing table

	Mode	Resolution		
1	VGA	640x480	60	Hz
2	MAC	640x480	66.7	Hz
3	VESA	720x400	70	Hz
4	SVGA	800x600	56	Hz
5		800x600	60	Hz
6	XGA	1024x768	60	Hz
7		1024x768	70	Hz
8	VESA	1152x864	75	Hz
9	SXGA	1280x1024	60	Hz
10	WXGA	1280x800	60	Hz
11	WXGA+	1440x900	60	Hz
12	UXGA	1920x1080	60	Hz

Installation

To install the monitor on your host system, please follow the steps below:

Steps

1 Connect the video cable

   a Make sure both the monitor and computer are switched off.

   b Connect the VGA video cable to the computer.

   c Connect the digital cable (only for dual-input models).

      (1) Make sure both the monitor and computer are switched off.

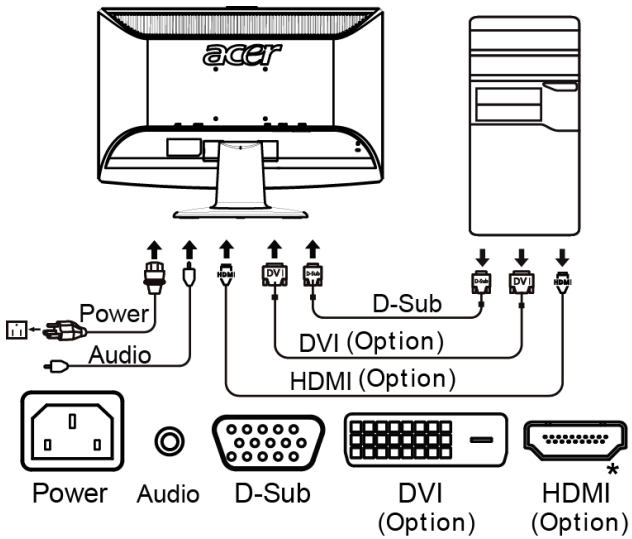
      (2) Connect one end of the 24-pin DVI* cable to the back of the monitor and the other end to the computer's port.

      (3) Connect one end of the 19-pin HDMI* cable to the back of the monitor and the other end to the computer's port.

2 Connect the power cord
Connect the power cord to the monitor, then to a properly grounded AC outlet.

3 Turn on the monitor and computer
Turn on the monitor first, then the computer. This sequence is very important.

4 If the monitor does not function properly, please refer to the troubleshooting section to diagnose the problem



* for selected models

Users controls

Front panel controls

Icon	Item	Description
⏻	Power button/ indicator	Turns the monitor on/off. White indicates power on. Amber indicates standby/power saving mode.
◄/►	Minus / Plus	If the OSD is active, press the **Minus** or **Plus** buttons to toggle between the OSD options.
MENU	OSD functions	Press to view the OSD. Press again to enter a selection in the OSD. Please refer to "Adjusting the OSD settings" on page 11 for more details.
AUTO	Auto adjust button/Exit	If the OSD is active, press **Auto** to exit the OSD. Once the OSD is inactive, press **Auto** and the monitor will automatically optimize the display position, focus, and clock of your display.
e	Empowering Key	Press the Empowering Key to open the Acer eColor Management OSD and access the scenario modes. Please refer to "Acer eColor Management" on page 10 for more details.
INPUT	Input Key	Use Input key to select between three different video source that may be connected to your monitor. (a) VGA input (b) DVI-D input (c) HDMI input As you cycle through the inputs you will see the following messages on right top side of screen to indicate currently selected input source. It may take 1 or 2 seconds for the image to appear . VGA or DVI-D or HDMI If either VGA or DVI-D input is selected and both VGA and DVI-D cables are not connected, a floating dialog box as shown below appears: "No Cable Connect" or "No Signal"

Acer eColor Management

Operation instructions

1 Press the e Empowering Key to open the Acer eColor Management OSD and access the scenario modes.

2 Press " ◄ " or " ► " to select the mode.

3 Press the Auto-adjust button to confirm the mode and exit Acer eColor Management.

Features and benefits

Main menu icon	Sub menu item	Description
	User mode	User-defined. Settings can be fine-tuned to suit any situation.
	Text mode	Optimal balance of brightness and contrast to prevent eyestrain. The most comfortable way to read onscreen text.
	Standard mode	Default settings. Reflects native display capability.
	Graphic mode	Enhances colors and emphasizes fine detail. Pictures and photographs appear in vibrant colors with sharp detail.
	Movie mode	Displays scenes in clearest detail. Presents great visuals, even in unsuitably-lit environments.

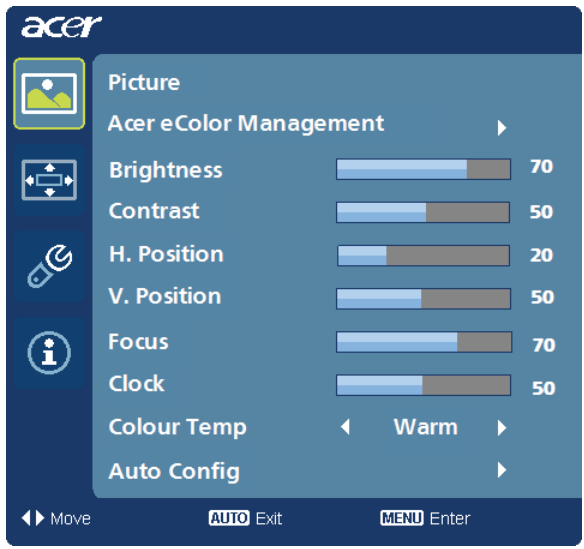
Adjusting the OSD settings

Note: The following content is for general reference only. Actual product specifications may vary.

The OSD can be used for adjusting the settings of your LCD Monitor.

Press the **Menu** key to open the OSD. You can use the OSD to adjust the picture quality, OSD position and general settings. For advanced settings, please refer to following page:

Adjusting the picture quality



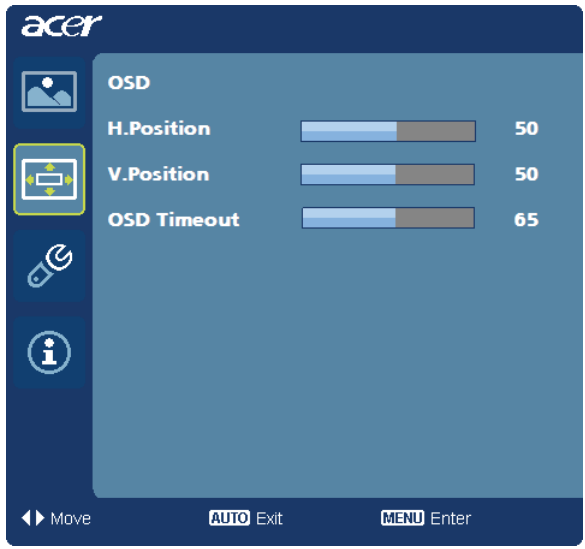
1 Press the Menu key to bring up the OSD.

2 Using the ◄/► keys, select Picture from the OSD. Then navigate to the picture element you wish to adjust.

3 Use the ◄/► keys to adjust the sliding scales.

4 The Picture menu can be used to adjust the current Brightness, Contrast, Colour Temp, Auto Config and other image-related qualities.

Adjusting the OSD position



1 Press the Menu key to bring up the OSD.

2 Using the directional keys, select OSD from the onscreen display. Then navigate to the feature you wish to adjust.

Adjusting the setting

1 Press the Menu key to bring up the OSD.

2 Using the ◄/► keys, select Setting from the OSD. Then navigate to the feature you wish to adjust.

3 The Setting menu can be used to adjust the screen Menu Language and other important settings.

Product information

1 Press the Menu key to bring up the OSD.

2 Using the ◄/► keys, select Information from the OSD. Then the basic information of LCD monitor will show up for current input.

Troubleshooting

Before sending your LCD monitor for servicing, please check the troubleshooting list below to see if you can self-diagnose the problem.

VGA mode

Problem	LED status	Remedy
No picture visible	White	Using the OSD, adjust brightness and contrast to maximum or reset to their default settings.
	Off	Check the power switch. Check if the power cord is properly connected to the monitor.
	Amber	Check if the video signal cable is properly connected at the back of monitor. Check if the computer system is switched on and in power saving/ standby mode.
Unstable picture		Check if the specification of graphics adapter and monitor is in compliance which may be causing the input signal frequency mismatch.
Abnormal picture	Image is missing, off-center, too large or too small on the screen.	Using the OSD, adjust focus, clock, H-position and V-position with non-standard signals. Check the display setting on your system. In case of a missing image, please select another resolution or vertical refresh rate. Wait for a few seconds after adjusting the size of the image before changing or disconnecting the signal cable or switching off the monitor.

DVI/HDMI* mode

Problem	LED status	Remedy
No picture visible	White	Using the OSD, adjust brightness and contrast to maximum or reset to their default settings.
	Off	Check the power switch. Check if the AC power cord is properly connected to the monitor.
	Amber	Check if the video signal cable is properly connected at the back of monitor. Check that the computer system is switched on and in power saving/ standby mode.

* for selected models